

Project Number: G104239938

Date Issued: 5/27/2022

ETL Verified Certificate of Conformance number: 101593267CRT-002a

Test Report Number: 104239938CRT-009c



Applicant:

Berk-Tek LLC
132 White Oak Rd
New Holland, PA 17557

Manufacturer:

Berk-Tek LLC
132 White Oak Rd
New Holland, PA 17557

Applicant Contact: Mr. Michael Boland

Mfg. Contact: Mr. Michael Boland

Dear Mr. Boland

Intertek is pleased to provide this letter report covering the testing of your 4-pair, 23 AWG, U/UTP, CMP, horizontal (solid) cable covered by ETL Verified certificate of conformance number 101593267CRT-002a. The sample was randomly selected by an Intertek inspector from your manufacturing facility, Berk-Tek LLC, on 2/1/2022 for Quarter 1 2022 follow-up testing.

The testing was performed at Intertek located in Cortland, NY from 2/9/2022 through 2/15/2022, to the ANSI/TIA-568.2-D and LANmark-XTP standard(s) for category 6A and passed the applicable requirements.

We have appreciated this opportunity to be of service to you. If there are any questions regarding this letter or any other services offered by Intertek, Please do not hesitate to contact us.

Sincerely,

A handwritten signature in cursive script that reads "Antoine Pelletier".

Antoine Pelletier
Project Engineer
Global Cabling Products Testing
e-mail: antoine.pelletier@intertek.com
Phone: (607) 758-6718

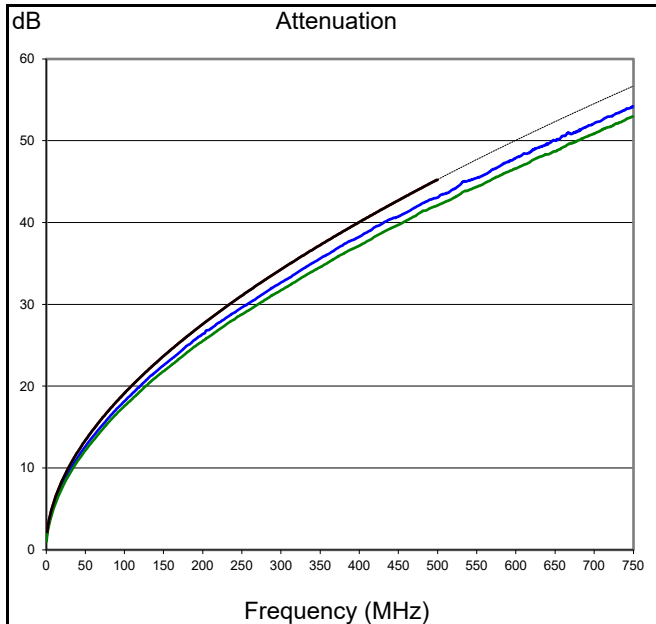
A handwritten signature in cursive script that reads "Craig L. Williams".

Craig L. Williams
Technician
Global Cabling Products Testing
Phone: (607) 758-6321

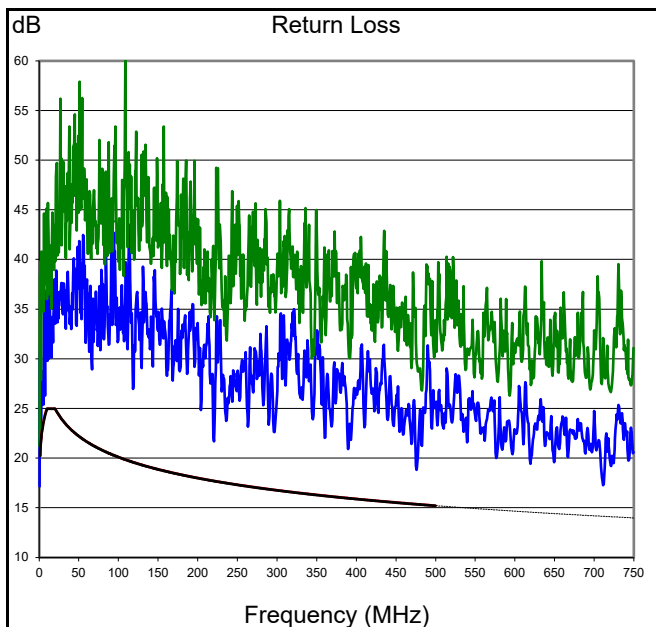
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LANmark-XTP
 ANSI/TIA-568.2-D, Category 6A
Part Number LANmark-XTP CMP UTP
Description **Berk-Tek LANmark-XTP CMP**
 4X23 UTP-CMP-Solid

Test Started 2/9/2022 13:33
Technician Craig Williams
Report No. 104239938CRT-009c
Length (m) 100
Temperature 22.4 °C
Test Status **PASS**



Attenuation				
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec
1	1.9	1.6	2.1	2.1
4	3.6	3.3	3.8	3.8
8	4.9	4.6	5.3	5.3
10	5.5	5.1	5.9	5.9
16	7.0	6.7	7.5	7.5
20	7.8	7.4	8.4	8.4
25	8.8	8.4	9.4	9.4
31.25	9.3	8.8	10.5	10.5
62.5	14.1	13.6	15.0	15.0
100	18.1	17.6	19.1	19.1
250	29.6	28.8	31.1	31.1
500	43.0	42.1	45.3	45.3
600	47.9	46.6		
750	54.2	53.0		
Limit Margin (dB) :			0.25	0.25
Frequency (MHz) :			1.12	1.12



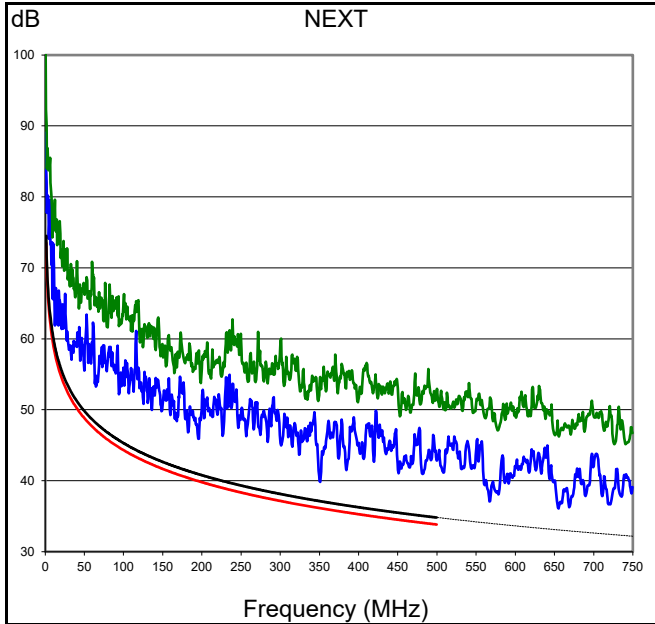
Return Loss				
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec
1	29.4	38.0	20.0	20.0
4	27.3	35.1	23.0	23.0
8	30.6	37.6	24.5	24.5
10	31.3	36.0	25.0	25.0
16	32.9	40.5	25.0	25.0
20	35.5	41.9	25.0	25.0
25	36.7	40.7	24.3	24.3
31.25	36.5	45.3	23.6	23.6
62.5	33.8	46.2	21.5	21.5
100	31.9	39.8	20.1	20.1
250	27.6	45.4	17.3	17.3
500	25.3	33.9	15.2	15.2
600	22.7	30.6		
750	20.6	31.1		
Limit Margin (dB) :			0.11	0.11
Frequency (MHz) :			2.37	2.37

Legend : Blue - Worst Case; Green - Average; Red - TIA Specification; Black - LANmark Specification

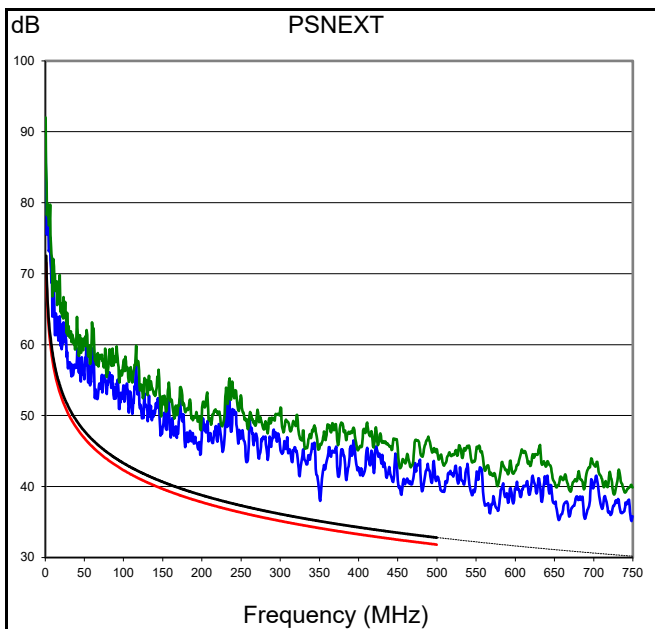
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LANmark-XTP
 ANSI/TIA-568.2-D, Category 6A
Part Number LANmark-XTP CMP UTP
Description **Berk-Tek LANmark-XTP CMP**
 4X23 UTP-CMP-Solid

Test Started 2/9/2022 13:33
Technician Craig Williams
Report No. 104239938CRT-009c
Length (m) 100
Temperature 22.4 °C
Test Status **PASS**



NEXT				
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec
1	84.9	92.3	75.3	74.3
4	79.3	83.8	66.3	65.3
8	70.4	80.2	61.8	60.8
10	65.6	78.1	60.3	59.3
16	64.3	74.4	57.2	56.2
20	62.7	71.4	55.8	54.8
25	62.7	71.0	54.3	53.3
31.25	59.7	69.8	52.9	51.9
62.5	59.8	68.7	48.4	47.4
100	55.9	64.7	45.3	44.3
250	49.1	60.7	39.3	38.3
500	42.9	52.4	34.8	33.8
600	41.8	49.1		
750	39.1	46.7		
Limit Margin (dB) :		2.71	3.71	
Frequency (MHz) :		350.95	350.95	



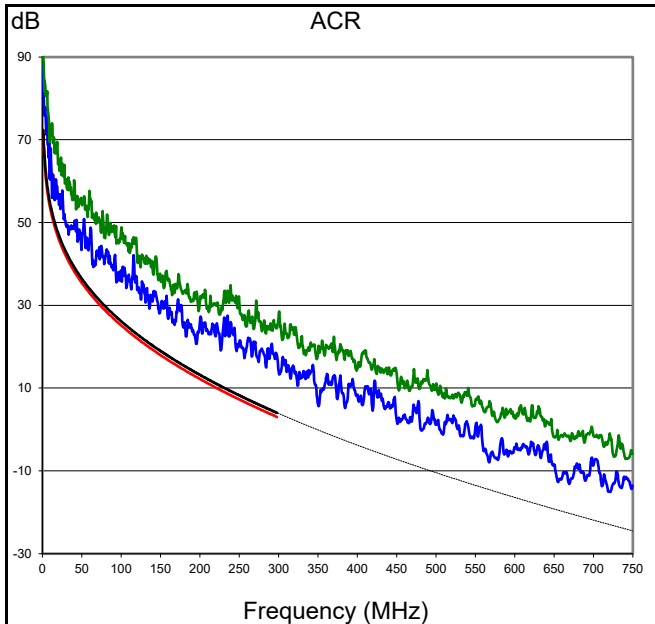
PSNEXT				
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec
1	82.5	85.6	73.3	72.3
4	75.7	77.9	64.3	63.3
8	68.7	72.8	59.8	58.8
10	64.6	70.4	58.3	57.3
16	62.0	66.5	55.2	54.2
20	59.8	64.6	53.8	52.8
25	60.6	64.1	52.3	51.3
31.25	58.2	61.6	50.9	49.9
62.5	57.2	60.7	46.4	45.4
100	54.2	57.4	43.3	42.3
250	47.2	52.9	37.3	36.3
500	40.9	45.3	32.8	31.8
600	39.6	42.3		
750	35.8	39.9		
Limit Margin (dB) :		2.87	3.87	
Frequency (MHz) :		350.95	350.95	

Legend : Blue - Worst Case; Green - Average; Red - TIA Specification; Black - LANmark Specification

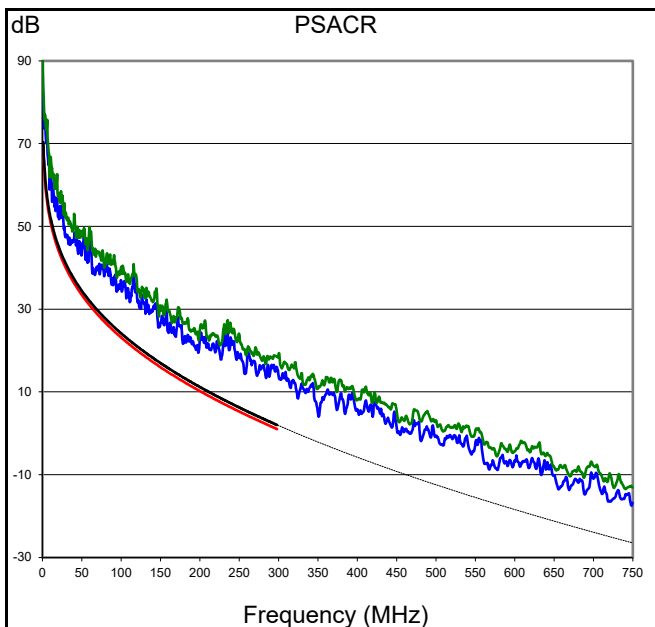
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LANmark-XTP
 ANSI/TIA-568.2-D, Category 6A
Part Number LANmark-XTP CMP UTP
Description **Berk-Tek LANmark-XTP CMP**
 4X23 UTP-CMP-Solid

Test Started 2/9/2022 13:33
Technician Craig Williams
Report No. 104239938CRT-009c
Length (m) 100
Temperature 22.4 °C
Test Status **PASS**



ACR				
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec
1	83.1	90.8	73.2	72.2
4	75.9	80.6	62.5	61.5
8	65.7	75.8	56.4	55.4
10	60.3	73.1	54.4	53.4
16	57.6	67.9	49.8	48.8
20	55.8	64.0	47.4	46.4
25	54.2	62.7	45.0	44.0
31.25	50.8	61.1	42.4	41.4
62.5	46.2	55.2	33.4	32.4
100	38.4	47.3	26.2	25.2
250	20.5	32.2	8.3	7.3
500	1.1	10.6		
600	-4.6	2.8		
750	-13.5	-5.9		
Limit Margin (dB) :			3.66	4.66
Frequency (MHz) :			12.37	12.37



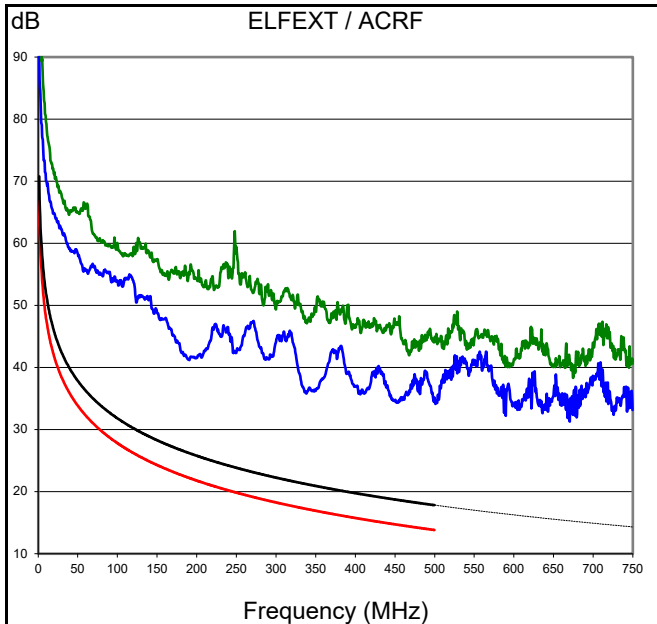
PSACR				
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec
1	80.6	84.0	71.2	70.2
4	72.3	74.6	60.5	59.5
8	64.8	68.2	54.4	53.4
10	59.4	65.3	52.4	51.4
16	55.2	59.8	47.8	46.8
20	52.3	57.1	45.4	44.4
25	52.2	55.7	43.0	42.0
31.25	49.3	52.8	40.4	39.4
62.5	43.7	47.0	31.4	30.4
100	37.0	39.9	24.2	23.2
250	18.8	24.1	6.3	5.3
500	-0.7	3.2		
600	-6.8	-4.4		
750	-16.8	-13.1		
Limit Margin (dB) :			5.61	6.61
Frequency (MHz) :			12.37	12.37

Legend : Blue - Worst Case; Green - Average; Red - TIA Specification; Black - LANmark Specification

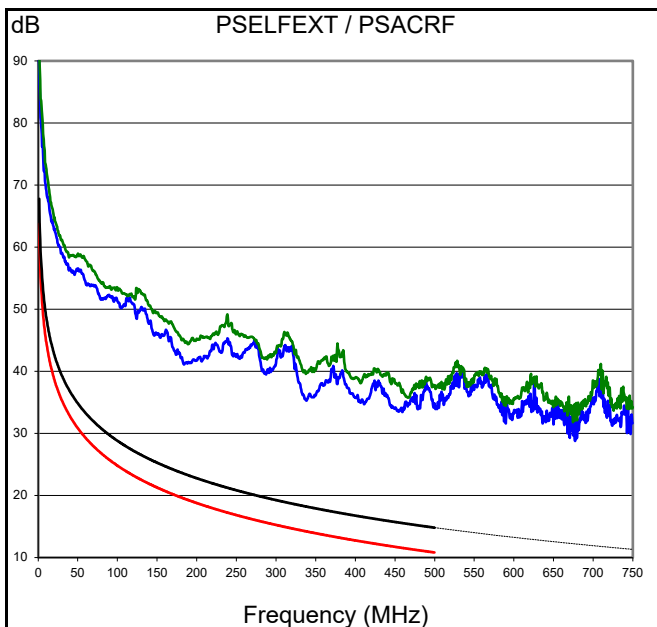
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LANmark-XTP
 ANSI/TIA-568.2-D, Category 6A
Part Number LANmark-XTP CMP UTP
Description **Berk-Tek LANmark-XTP CMP**
 4X23 UTP-CMP-Solid

Test Started 2/9/2022 13:33
Technician Craig Williams
Report No. 104239938CRT-009c
Length (m) 100
Temperature 22.4 °C
Test Status **PASS**



ELFEXT / ACRF				
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec
1	90.8	102.5	71.8	67.8
4	79.2	89.3	59.8	55.8
8	73.0	82.5	53.7	49.7
10	70.1	79.6	51.8	47.8
16	66.3	73.1	47.7	43.7
20	64.9	71.1	45.8	41.8
25	63.5	69.1	43.8	39.8
31.25	62.8	68.4	41.9	37.9
62.5	55.1	66.0	35.9	31.9
100	54.0	60.1	31.8	27.8
250	42.4	59.4	23.8	19.8
500	35.2	44.7	17.8	13.8
600	34.2	41.4		
750	33.2	40.6		
Limit Margin (dB) : 14.61 18.61				
Frequency (MHz) : 337.83 337.83				



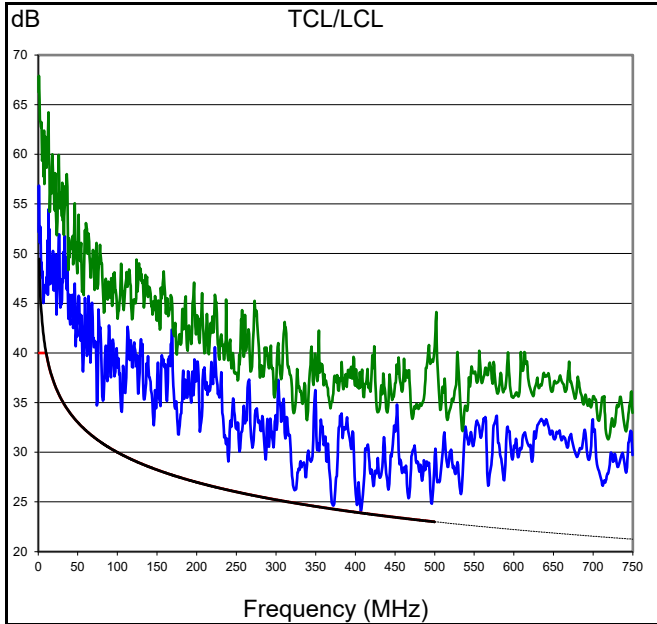
PSELFEXT / PSACRF				
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec
1	89.2	92.5	68.8	64.8
4	78.2	81.9	56.8	52.8
8	72.2	75.6	50.7	46.7
10	69.4	73.0	48.8	44.8
16	64.7	67.2	44.7	40.7
20	62.8	64.5	42.8	38.8
25	60.5	62.7	40.8	36.8
31.25	60.0	61.9	38.9	34.9
62.5	54.1	57.2	32.9	28.9
100	51.4	53.4	28.8	24.8
250	42.3	46.0	20.8	16.8
500	34.9	37.8	14.8	10.8
600	33.8	35.7		
750	31.7	34.3		
Limit Margin (dB) : 17.09 21.09				
Frequency (MHz) : 337.83 337.83				

Legend : Blue - Worst Case; Green - Average; Red - TIA Specification; Black - LANmark Specification

Summary

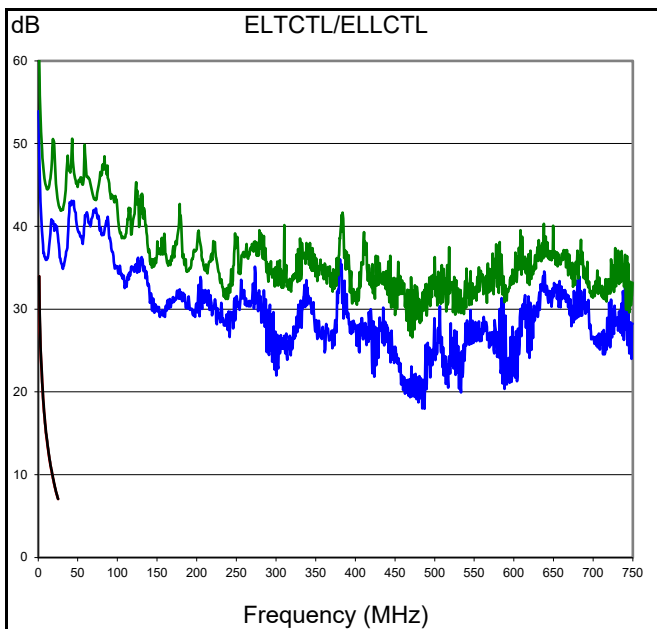
Client Berk-Tek LLC
Specifications Berk-Tek LANmark-XTP
 ANSI/TIA-568.2-D, Category 6A
Part Number LANmark-XTP CMP UTP
Description **Berk-Tek LANmark-XTP CMP**
 4X23 UTP-CMP-Solid

Test Started 2/9/2022 13:33
Technician Craig Williams
Report No. 104239938CRT-009c
Length (m) 100
Temperature 22.4 °C
Test Status **PASS**



TCL/LCL				
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec
1	56.9	67.9	50.0	40.0
4	49.1	63.2	44.0	40.0
8	46.6	57.0	41.0	40.0
10	46.5	61.7	40.0	40.0
16	49.2	56.0	38.0	38.0
20	46.3	56.5	37.0	37.0
25	48.4	55.8	36.0	36.0
31.25	46.4	55.1	35.1	35.1
62.5	39.9	50.0	32.0	32.0
100	38.9	43.9	30.0	30.0
250	32.4	38.0	26.0	26.0
500	28.5	40.2	23.0	23.0
600	30.7	35.6		
750	29.7	34.0		

Limit Margin (dB) : 0.18 0.18
 Frequency (MHz) : 407.17 407.17



ELTCTL/ELLCTL				
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec
1	51.7	62.1	35.0	35.0
4	40.6	50.3	23.0	23.0
8	36.4	45.9	16.9	16.9
10	35.9	44.9	15.0	15.0
16	39.9	46.2	10.9	10.9
20	40.3	50.2	9.0	9.0
25	39.0	43.2	7.0	7.0
31.25	36.2	42.3		
62.5	41.4	46.0		
100	35.2	42.5		
250	31.5	37.8		
500	28.9	34.7		
600	24.4	34.7		
750	28.2	33.2		

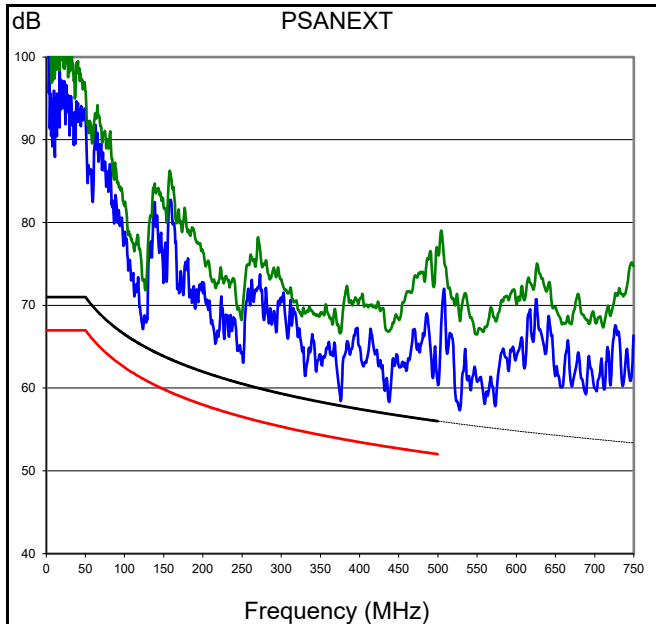
Limit Margin (dB) : 16.77 16.77
 Frequency (MHz) : 1.75 1.75

Legend : Blue - Worst Case; Green - Average; Red - TIA Specification; Black - LANmark Specification

Summary

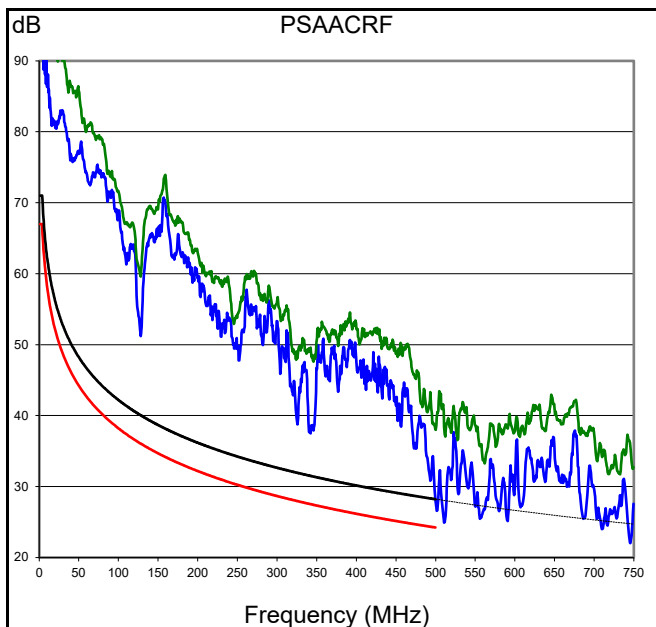
Client Berk-Tek LLC
Specifications Berk-Tek LANmark-XTP
 ANSI/TIA-568.2-D, Category 6A
Part Number LANmark-XTP CMP UTP
Description **Berk-Tek LANmark-XTP CMP**
 4X23 UTP-CMP-Solid

Test Started 2/9/2022 13:33
Technician Craig Williams
Report No. 104239938CRT-009c
Length (m) 100
Temperature 22.4 °C
Test Status **PASS**



PSANEXT				
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec
1	107.1	110.3	71.0	67.0
4	98.9	107.0	71.0	67.0
8	89.2	97.1	71.0	67.0
10	95.9	103.6	71.0	67.0
16	93.4	99.3	71.0	67.0
20	96.3	102.3	71.0	67.0
25	91.9	99.6	71.0	67.0
31.25	95.4	100.2	71.0	67.0
62.5	90.6	93.2	69.6	65.6
100	78.5	82.0	66.5	62.5
250	64.2	68.4	60.5	56.5
500	60.8	76.5	56.0	52.0
600	63.8	70.1		
750	66.4	74.7		

Limit Margin (dB) : 0.57 4.57
 Frequency (MHz) : 375.94 375.94



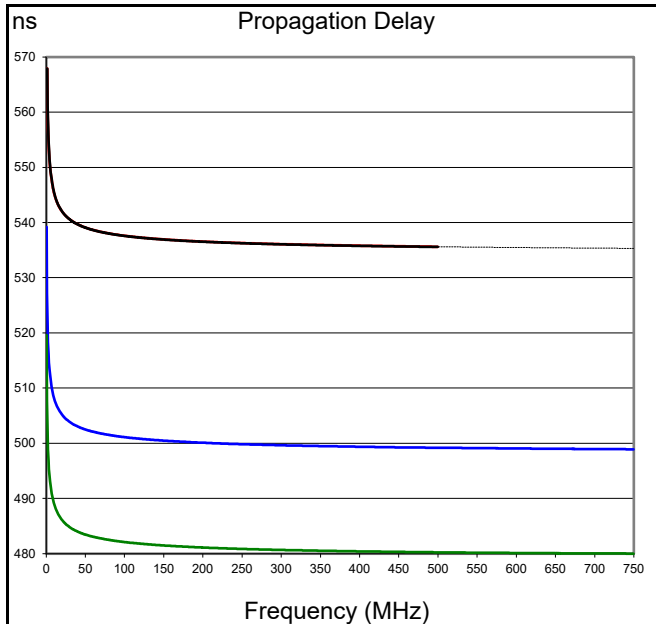
PSAACRF				
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec
1	102.6	106.4	71.0	67.0
4	96.2	103.8	70.2	66.2
8	91.8	100.7	64.1	60.1
10	86.3	95.1	62.2	58.2
16	80.8	92.9	58.1	54.1
20	81.0	92.0	56.2	52.2
25	81.6	92.5	54.2	50.2
31.25	82.4	92.1	52.3	48.3
62.5	72.9	81.0	46.3	42.3
100	68.2	71.7	42.2	38.2
250	49.4	53.8	34.2	30.2
500	28.3	38.0	28.2	24.2
600	30.3	37.9		
750	27.6	32.7		

Limit Margin (dB) : 0.11 4.11
 Frequency (MHz) : 499.63 499.63

Legend : Blue - Worst Case; Green - Average; Red - TIA Specification; Black - LANmark Specification

Summary

Client	Berk-Tek LLC	Test Started	2/9/2022 13:33
Specifications	Berk-Tek LANmark-XTP ANSI/TIA-568.2-D, Category 6A	Technician	Craig Williams
Part Number	LANmark-XTP CMP UTP	Report No.	104239938CRT-009c
Description	Berk-Tek LANmark-XTP CMP 4X23 UTP-CMP-Solid	Length (m)	100
		Temperature	22.4 °C
		Test Status	PASS



Propagation Delay				
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec
1	527.2	507.6	570.0	570.0
4	513.4	494.1	552.0	552.0
8	509.4	490.2	546.7	546.7
10	508.3	489.1	545.4	545.4
16	506.1	487.0	543.0	543.0
20	505.2	486.2	542.0	542.0
25	504.5	485.4	541.2	541.2
31.25	504.2	485.1	540.4	540.4
62.5	502.0	483.0	538.6	538.6
100	501.1	482.1	537.6	537.6
250	499.8	480.8	536.3	536.3
500	499.2	480.2	535.6	535.6
600	499.1	480.1		
750	498.9	480.0		
Limit Margin (dB) :			36.43	36.43
Frequency (MHz) :			467.14	467.14

Delay Skew			
Freq. MHz	Worst case	LANmark Spec	TIA Spec
1-500	38.65	45	45

Low frequency measurements						
Parameter	Worst Case	Average	LANmark		TIA	
			Spec	Margin	Spec	Margin
Mutual capacitance (nF/100m)	4.79	4.55	5.10	0.31	5.60	0.81
Maximum Capacitance Unbalance Pair-to-Ground (pF/100m)	22.03	13.04	330.00	307.97	330.00	307.97
Conductor DC resistance (Ω)	7.53	7.32	9.38	1.85	9.38	1.85
DC Resistance Unbalance within a pair (%) using IEC calculation method	0.40%	0.18%	2.00%	1.60%	2.00%	1.60%

Legend : Blue - Worst Case; Green - Average; Red - TIA Specification; Black - LANmark Specification